



LONDON- WEST MIDLANDS ENVIRONMENTAL STATEMENT

Volume 5 | Technical Appendices

CFA21 | Drayton Bassett, Hints and Weeford

Construction assessment (SV-003-021)

Sound, noise and vibration

November 2013

ES 3.5.2.21.11

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Appendix SV-003-021

Environmental topic:	Sound, noise and vibration	SV
Appendix name:	Construction assessment	003
Community forum area:	Drayton Bassett, Hints and Weeford	021

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1 Introduction

1.1.1 The sound, noise and vibration appendices comprise four sections. The first of these is an introduction to the relevant route-wide methodology, assumptions and assessment (Volume 5: Appendix SV-100-000). This relates to the sound, noise and vibration assessment for all community forum areas (CFA).

1.1.2 For the Drayton Bassett Hints and Weeford community forum area(CFA21), the other three sections are as follows:

- baseline sound, noise and vibration (Appendix SV-002-021);
- construction sound, noise and vibration (Appendix SV-003-021) (this appendix); and
- operational sound, noise and vibration (Appendix SV-004-021).

1.1.3 The outcomes of the assessment are summarised in Volume 2: CFA21 Report, Chapter 11 Sound, Noise and Vibration

1.1.4 Maps referred to throughout the sound, noise and vibration appendices are contained in the Volume 5 map book.

1.1.5 This appendix presents the likely noise and vibration impacts, effects and significant effects arising from the construction of the Proposed Scheme for the Drayton Bassett, Hints and Weeford area on:

- people, primarily where they live ('residential receptors') in terms a) individual dwellings and b) on a wider community basis, including any shared community open areas; and
- community facilities such as schools, hospitals, places of worship, and also commercial properties such as offices and hotels, collectively described as 'non-residential receptors' and 'quiet areas'.

1.1.6 The assessment of likely impacts, effects and significant effects from construction noise and vibration on agricultural, community, ecological or heritage receptors and the assessment of tranquillity are presented in the following documents within Volume 5:

<ul style="list-style-type: none"> • Agriculture, forestry and soils • Community • Ecology • Heritage • Landscape and Visual 	<ul style="list-style-type: none"> Appendix AG-001-021 Appendix CM-001-021 Appendix EC-005-021 Appendix CH-003-021 Appendix LV-001-021
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1.2 Evaluation of impacts and effects

1.2.1 This appendix provides a quantitative assessment of construction noise and vibration impacts/effects and a qualitative assessment of likely significant effects, based on the

impacts/effects identified and other local context information consistent with the scope and methodology defined for the Proposed Scheme.

- 1.2.2 Indirect effects arising from temporary changes in traffic patterns on the existing road network as a consequence of constructing the Proposed Scheme are also reported in this appendix, where they would occur within the study area as defined in Volume 5: Appendix SV-001-000.
- 1.2.3 In undertaking the assessment of sound and vibration, consistent with Environmental Impact Assessment (EIA) Regulations and emerging National Planning Practice Guidance¹ a differentiation between impacts effects, adverse effects and significant effects is made. Further information is provided in Volume 5: Appendix SV-001-000.
- 1.2.4 The assessment of impacts and effects has been undertaken at assessment locations that are representative of a number of dwellings or other sensitive receptors. The Assessment Locations employed in this assessment are presented on map series Sv-03 in the CFA21 Volume 5 sound, noise and vibration map book.

¹ Information is provided in the emerging National Planning Practice Guidance – Noise <http://planningguidance.planningportal.gov.uk>, refer to the noise exposure hierarchy.

2 Scope, assumptions and limitations

2.1 Regional and local policy guidance

2.1.1 The policy framework for sound, noise and vibration is set out in Volume 1 and in Appendix SV-001-000. As part of the engagement with local authorities through the Planning Forum Sub Group – Acoustics, information regarding any specific local planning guidance in respect of noise and vibration has been requested. Whilst no information has been received for this study area via the Planning Forum Sub Group – Acoustics, the following local policy guidance on noise and vibration has been identified:

- The Lichfield District Council – Local Plan – Our Strategy (July 2012).

2.1.2 This guidance has been considered as part of formulating the detailed application of the impact and significance criteria set out in Volume 5, Appendix SV-001-000.

2.2 Engagement

2.2.1 Details of engagement on a route-wide basis with the local and county authorities' Environmental Health Practitioners via the Planning Forum Sub Group – Acoustics, is set out in Volume 1.

2.2.2 Engagement with communities has been via the Community Forums, as set out in Volume 1. In respect of sound, noise and vibration the following discussions have taken place:

- general discussions in respect of local issues, including possible ways to avoid and mitigate the potential impacts of noise or vibration;
- September/October 2012; a specific presentation about sound, noise and vibration with discussion afterwards with one of the project team specialists;
- November/December 2012; specific request for the Community Forum to propose baseline sound monitoring locations;
- January/February 2013; feedback to the Community Forum on any proposed baseline monitoring locations; and
- verbal/written response to questions regarding sound, noise and vibration.

2.3 Methodology

2.3.1 The methodology used for the assessment of airborne sound, ground-borne sound and vibration impacts and the determination of significant effects is defined in the Scope and Methodology Report (SMR) (Volume 5: Appendix CT-001-000/1), is clarified in a number of areas by the SMR addendum (Volume 5: Appendix CT-001-000/2). Further information is contained in Volume 5: Appendix SV-001-000.

2.4 Assumptions

2.4.1 Route-wide assumptions are outlined in Volume 1 and are further detailed in Appendix SV-001-000. Local assumptions that apply to the assessment of construction sound noise and vibration within this CFA are set out in Volume 2: Report 21.

2.5 Limitations

2.5.1 The route-wide limitations and the approach adopted to assure that they will not impact the robust assessment of sound, noise and vibration are presented in Volume 5: Appendix SV-001-000. In this area, there are a number of locations where the land or property owners did not permit baseline sound level monitoring to be undertaken at their premises. However, sufficient information has been obtained to undertake the assessment. Further information is provided in Volume 5: Appendix SV-002-021.

3 Environmental Baseline

3.1 Existing baseline

3.1.1 Baseline sound level data has been collected at locations representative of the airborne sound-sensitive receptors. The existing and future baseline airborne sound levels derived from these measurements are given in Volume 5: Appendix SV-002-021. Details of the baseline data collection and the methodology are given in Volume 5: Appendix SV-001-000 and specifically for this study area in Volume 5: Appendix SV-002-021.

3.2 Future baseline

3.2.1 The assessment of noise from construction activities assumes a baseline year of 2017 which represents the period immediately prior to the start of the construction period. As a reasonable worst case, it has been assumed that no change in baseline sound levels will occur between the existing baseline (2012/13) and the future baseline year of 2017. The assessment of noise from construction traffic assumes a baseline year of 2021, representative of the middle of the construction period when the construction traffic flows are expected to be at their peak. Further information can be found in the Traffic and Transport assessment (Appendix TT-001-021).

4 Effects arising during construction

4.1 Introduction

4.1.1 The assessment is reported first for ground-borne sound and vibration and then for airborne sound. Under each of these headings, the results of the quantitative identification of impacts and effects are presented. This is followed by the identification of significant effects and the evidence used to support these conclusions.

4.1.2 The structure of this assessment report is:

- avoidance and mitigation measures;
- quantitative identification of impact and effects;
 - ground-borne sound and vibration:
 - residential; and
 - non-residential;
 - airborne sound:
 - residential; and
 - non-residential;
- assessment of impacts and effects:
 - residential receptors: direct effects – dwellings;
 - residential receptors: direct effects – communities;
 - residential receptors: indirect effects;
 - non-residential receptors: direct effects;
 - non-residential receptors: indirect effects; and
 - cumulative effects from the proposed scheme and other committed development.

4.2 Avoidance and mitigation measures

4.2.1 These are set out in Volume 2: Report 21.

4.3 Quantitative identification of impacts and effects

Ground-borne vibration

4.3.1 Assessment locations defined for the quantitative assessment of impacts are shown on map series SV-02 in the CFA21 Volume 5 sound, noise and vibration map book.

4.3.2 For each Assessment Location, the assessment results for residential and non-residential receptors are presented in Table 1. Explanation of the information in

Table 1 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:

- Where the significant effect column is highlighted, then a significant effect is identified at the referenced community, or individual receptor.
- * Significant effect – the quantitative impact methodology has identified either:
 - 1) no impact at this receptor but further information (see assessment) has identified that a significant effect is nonetheless likely; or
 - 2) an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not give rise to a significant effect
- ~ Significant effect – the forecast adverse effects are not considered to be significant on a community basis (further information on methodology is provided in Volume 5: Appendix SV-001-000)
- A Type of effect – adverse effect
- S Type of effect – significant adverse effect
- NA Type of effect – not generally an adverse effect
- B Type of effect – for non-residential receptors further detail about the type of effect is set out in the text of Volume 5: Appendix SV-001-000
- V1 Type of receptor – (V1) vibration sensitive research and manufacturing, hospital, and university equipment, (V2) hotels, hospital wards and education dormitories, (V3) offices, schools and places of worship, (V4) workshops
- T Receptor design – typical
- S Receptor design – special

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Table 1: Assessment of construction induced ground-borne vibration at residential receptors

Assessment location		Impact criteria				Significance criteria								Significant effect
ID	Area represented	Peak particle velocity (PPV) [mm/s] on foundation	Typical/highest monthly indoor vibration dose value (VDV) [$m/s^{1.75}$]		Construction activity resulting in highest forecast vibration levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect
			Day 07:00-23:00	Night 23:00-07:00										
17207	Tamworth Road, Lichfield	0.17	0.05/0.05	-	Earthworks	NA	1	R	T	-	-	-	-	-
26298	Watling Street, Weeford, Lichfield	0.14	0.07/0.07	-	Earthworks	NA	1	R	T	-	-	-	-	-
26552	Sutton Road, Tamworth	0.42	0.1/0.1	-	Earthworks	NA	1	R	T	-	-	-	-	-
27298	Drayton Lane, Drayton Bassett, Tamworth	0.11	0.06/0.06	-	Earthworks	NA	1	R	T	-	-	-	-	-
701082	Jerry's Lane, Lichfield	0.72	0.3/0.3	-	Earthworks	A	1	R	T	-	-	-	14	-
720001	Bangley Lane, Hints	1.98	0.69/0.69	-	Earthworks	A	1	R	T	-	-	-	-	-

Table 2: Assessment of construction induced ground-borne vibration at non-residential receptors

Assessment location		Impact criteria				Significance criteria								Significant effect
ID	Area represented	PPV [mm/s] on foundation	Typical/highest monthly indoor VDV [m/s ^{1.75}]		Construction activity resulting in highest forecast vibration levels and its duration (months)	Type of effect	Number of impacts represented	Type of receptor	Receptor resign	Existing environment	Unique feature	Combined impact	Impact duration [m]	Mitigation effect
			Day 0700-2300	Night 2300-0700										
721002	Bangley Lane, Hints	0.36	0.17/0.17	-	Earthworks	NA	1	R	T	-	-	-	-	-
701083	Jerry's Lane, Lichfield	0.16	0.04/0.04	-	Earthworks	B	1	V3	T	-	-	-	-	-

Airborne sound: direct impacts and effects

4.3.3 Activities associated with the construction phases of the Proposed Scheme would generate airborne noise. The assessment of the likely impacts and significant effects as a result of the construction noise has considered the effects on:

- residential receptors, both as individual dwellings and communities; and
- non-residential receptors, including quiet areas.

4.3.4 For each type of receptor, subject to the screening distances identified, and based upon supplied plant information from engineers, the typical and highest monthly $L_{Aeq,T}$ noise levels from construction activities have been calculated at the façade of all assessment locations, which are representative of a number of receptors in the study area.

4.3.5 The assessment results, impact criteria and significance criteria for the assessment of the scheme at residential and non-residential receptors are presented in Table 3 and Table 4 respectively.

4.3.6 Explanation of the information within Table 3 and Table 4 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:

	Where the significant effect column is highlighted, then a significant effect is identified at the referenced community, or individual non-residential receptor
*	Significant effect – the quantitative impact methodology has identified either: 1) no impact at this receptor but further information (see assessment) has identified that a significant effect is nonetheless likely; or 2) an impact at this receptor which, based upon further qualitative receptor information, (see assessment text) does not give rise to a significant effect
~	Significant effect – the forecast adverse effects are not considered to be significant on a community basis (further information on methodology is provided in Volume 5: Appendix SV-001-000)
A	Type of effect – adverse effect
S	Type of effect – significant adverse effect
NA	Type of effect – not generally an adverse effect
B	Type of effect – for non-residential receptors further detail about the type of effect is set out in the text of Volume 5: Appendix SV-001-000
R	Type of receptor – residential
G	Type of receptor – (G1) theatres, large auditoria and concert halls, (G2) sound recording and broadcast studios, (G3) places of meeting for religious worship, courts, cinemas, lecture theatres, museums and small auditoria or halls, (G4) schools, colleges, hospitals, hotels and libraries, and (G5) offices and general commercial premises
T	Receptor design – typical
S	Receptor design – special
H	Existing environment – high existing ambient noise levels, day >75dB, evening >65dB or night >55dB L_{pAeq} at the facade
L	Existing environment – low existing ambient noise levels, day ≤45dB, evening ≤45dB or night ≤35dB L_{pAeq} at the facade
NI	Mitigation effect – identified as likely to qualify for noise insulation under the draft CoCP

Table 3: Assessment of construction noise at residential receptors

Assessment location		Impact criteria			Significance criteria							Significant effect		
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect
		Day 07:00- 19:00	Evening 19:00- 23:00	Night 23:00- 07:00										
9023	Watling Street, Weeford, Lichfield	59/63 [B]	-	-	Balancing pond earthworks	NA	3	R	T	-	-	-	-	-
9796	Watling Street, Weeford, Lichfield	59/65 [B]	-	-	Demolition works	NA	1	R	T	-	-	-	-	-
10142	Weeford Road, Weeford, Lichfield	50/56 [B]	-	-	Bridge superstructure	NA	1	R	T	-	-	-	-	-
10165	Flats Lane, Lichfield	53/59 [B]	-	-	Demolition works	NA	2	R	T	-	-	-	-	-
10200	Flats Lane, Lichfield	54/59 [A]	-	-	Demolition works	NA	2	R	T	-	-	-	-	-
10245	Flats Lane, Lichfield	52/57 [B]	-	-	Demolition works	NA	1	R	T	-	-	-	-	-
10260	Flats Lane, Lichfield	57/66 [B]	-	-	Road construction	NA	2	R	T	-	-	-	-	-
10331	Watling Street, Weeford, Lichfield	60/66 [B]	-	-	Bridge superstructure	NA	4	R	T	-	-	-	-	-
10348	Watling Street, Weeford, Lichfield	48/54 [C]	-	-	Road construction	NA	2	R	T	-	-	-	-	-
10365	Flats Lane, Lichfield	53/57 [C]	-	-	Road construction	NA	1	R	T	-	-	-	-	-
17154	Tamworth Road, Lichfield	58/64 [A]	-	-	Road construction	NA	1	R	T	-	-	-	-	-
17207	Tamworth Road, Lichfield	63/70 [A]	-	-	Utilities diversion	A	1	R	T	-	-	4	-	~
17209	Tamworth Road, Lichfield	51/57 [A]	-	-	Demolition works	NA	1	R	T	-	-	-	-	-

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Assessment location		Impact criteria			Significance criteria							Significant effect		
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect
		Day 07:00- 19:00	Evening 19:00- 23:00	Night 23:00- 07:00										
17292	Tamworth Road, Lichfield	51/56 [B]	-	-	Bridge superstructure	NA	1	R	T	-	-	-	-	-
17298	Tamworth Road, Lichfield	52/58 [A]	-	-	Earthworks	NA	1	R	T	-	-	-	-	-
17311	Tamworth Road, Lichfield	65/69 [C]	-	-	Road construction	NA	2	R	T	-	-	-	-	-
17316	Tamworth Road, Lichfield	50/55 [A]	-	-	Demolition works	NA	2	R	T	-	-	-	-	-
25308	School Lane, Hints, Tamworth	55/59 [A]	-	-	Earthworks	NA	5	R	T	-	-	-	-	-
25500	Drayton Lane, Drayton Bassett, Tamworth	55/60 [A]	-	-	Utilities Diversion	NA	1	R	T	-	-	-	-	-
25745	Bangley Lane, Hints, Tamworth	51/56 [A]	-	-	Earthworks	NA	6	R	T	-	-	-	-	-
25831	Bangley Lane, Hints, Tamworth	50/56 [A]	-	-	Road construction	NA	4	R	T	-	-	-	-	-
26298	Rock Hill, Weeford, Lichfield	61/66 [C]	-	-	Utilities diversion	NA	1	R	T	-	-	-	-	-
26552	Sutton Road, Tamworth	63/68 [B]	-	-	Road construction	NA	1	R	T	-	-	-	-	-
26582	Bangley Lane, Hints, Tamworth	57/62 [A]	-	-	Footpath construction	NA	1	R	T	-	-	-	-	-
26608	Bangley Lane, Hints, Tamworth	56/60 [A]	-	-	Utilities Diversion	NA	4	R	T	-	-	-	-	-
26678	Bangley Lane, Hints, Tamworth	56/60 [A]	-	-	Earthworks	NA	2	R	T	-	-	-	-	-
26713	Bangley Lane, Hints, Tamworth	59/66 [A]	-	-	Road construction	A	1	R	T	-	-	4	-	~
27298	Drayton Lane, Drayton Bassett,	60/66 [A]	-	-	Road construction	A	1	R	T	-	-	9	-	~

Assessment location		Impact criteria			Significance criteria							Significant effect		
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect
		Day 07:00- 19:00	Evening 19:00- 23:00	Night 23:00- 07:00										
	Tamworth													
28361	Tamworth Road, Lichfield	47/53 [C]	-	-	Earthworks	NA	1	R	T	-	-	-	-	-
28865	Levett Road, Lichfield	47/53 [A]	-	-	Demolition works	NA	8	R	T	-	-	-	-	-
28886	Jerry's Lane, Lichfield	45/51 [A]	-	-	Demolition works	NA	8	R	T	-	-	-	-	-
28935	Tamworth Road, Lichfield	43/49 [A]	-	-	Demolition works	NA	14	R	T	-	-	-	-	-
28998	Tamworth Road, Lichfield	43/49 [C]	-	-	Demolition works	NA	4	R	T	-	-	-	-	-
701068	Tamworth Road, Lichfield	42/48 [C]	-	-	Earthworks	NA	2	R	T	-	-	-	-	-
701082	Jerry's Lane, Lichfield	71/75 [A]	-	-	Demolition works	A	1	R	T	-	-	-	46	-
721001	Bangley Lane, Hints	68/76 [A]	-	-	Earthworks	S	1	R	T	-	-	-	20	NI
721002	Bangley Lane, Hints	64/70 [A]	-	-	Earthworks	A	1	R	T	-	-	-	14	-

Appendix SV-003-021 | Effects arising during construction

Table 4: Assessment of construction noise at non-residential receptors

Assessment location		Impact criteria			Significance criteria								Significant effect	
ID	Area represented	Typical/highest monthly outdoor L _{pAeq} [dB] at the facade [Assessment category A/B/C]			Construction activity resulting in highest forecast noise levels	Type of effect	Number of impacts represented	Type of receptor	Receptor design	Existing environment	Unique feature	Combined impact	Impact duration [months]	Mitigation effect
		Day 07:00- 19:00	Evening 19:00- 23:00/ Weekend	Night 23:00- 07:00										
8910	Old School House Restaurant, Church Hill, Weeford, Lichfield	45/50	-	-	Demolition works	B	1	G5	T	-	-	-	-	-
8926	General Commercial, Hungry Lane, Weeford, Lichfield	42/48	-	-	Demolition works	B	2	G5	T	-	-	-	-	-
9637	General Commercial, Rockery Lane, Hints, Tamworth	49/55	-	-	Earthworks	B	1	G5	T	-	-	-	-	-
10142	Weeford Village Hall, Weeford, Lichfield	50/56	-	-	Bridge superstructure	B	1	G3	T	-	-	-	-	-
17311	Whittington Arms, Tamworth Road, Lichfield	65/69			Road construction	B	1	G4	T	-	-	-	-	-
25881	St Bartholomew's Church, School Lane, Hints, Tamworth	49/52	-	-	Bridge superstructure	B	1	G3	T	-	-	-	-	-
26158	Hints Village Hall, Hints, Tamworth	47/50	-	-	Earthworks	B	1	G3	T	-	-	-	-	-
26177	Office, School Lane, Hints, Tamworth	50/55	-	-	Earthworks	B	1	G5	T	-	-	-	-	-
27402	Little Acorns Day Nursery, Jerry Lane	53/58	-	-	Earthworks	B	1	G4	T	-	-	-	-	-
27539	General Commercial, Sutton Road	49/53	-	-	PROw superstructure	B	1	G5	T	-	-	-	-	-
700646	St Mary's Church, Weeford	45/49	-	-	Demolition works	B	1	G3	T	-	-	-	-	-
701083	Packington Moor Farm Shop, Jerry's Lane	63/68	-	-	Utility diversion	B	1	G5	T	-	-	-	-	-

Airborne sound: indirect effects

4.3.7 Construction road traffic associated with the construction phases of the Proposed Scheme would generate airborne noise. Based upon traffic information for the Proposed Scheme, the change in traffic noise level at a reference distance of 10m from the edge of the nearside carriageway resulting from the presence of construction traffic for a given road has been predicted. The results for potentially significant road links are presented in Table 5.

4.3.8 Explanation of the information within Table 5 is provided in Volume 5: Appendix SV-001-000, with the following additional notes:

 Where the significant effect column is highlighted, then a significant effect is identified on nearby communities or individual receptors

Change values

 Yellow denotes a minor impact – a change is of 3-5dB or 1-3dB where a high existing sound level is identified

 Orange denotes a moderate impact – a change is of 5-10dB or 3-5dB where a high existing sound level is identified

 Red denotes a major impact – a change is of >10dB or >5dB where a high existing sound level is identified

Table 5: Assessment of construction traffic noise levels

Road name	Link	Future baseline sound level (dB)	Future baseline sound level + construction traffic (dB)	Change (dB)	Significant effect
		Daytime $L_{pAeq,16hr}$ 07:00-23:00 free-field	Daytime $L_{pAeq,16hr}$ 07:00-23:00 free-field		
Drayton Lane	A453 Cranebrook Hill to Dryton Bassett Viaduct Compound	58.0	59.5	1.6	
A453 Sutton Road	A446 London Road to B5404 Hints Road	72.1	73.3	1.2	
Watling Street	A38 London Road to the Black Brook viaduct compound	59.8	62.9	3.2	
A5	A38 Weeford junction to A453 Sutton Road	77.2	77.7	0.5	
Flats Lane	Watling Street to Flats Lane overbridge compound	56.7	57.7	1.1	
A51 Tamworth Road	Tamworth Road overbridge Compound to Whittington Common Road junction	69.1	69.2	0.1	
A5	A38 London Road roundabout to the A5148 roundabout	73.9	74.7	0.9	

4.4 Assessment of significant effects

Residential receptors: direct effects – individual dwellings

4.4.1 Taking account of the avoidance and mitigation measures set out in the previous paragraphs, one residential building (located on Bangley Lane closest to the Bangley Lane over-bridge) is forecast to experience noise levels higher than the noise

insulation trigger levels as defined in the draft CoCP. For daytime construction the trigger level is an equivalent continuous noise level of 75dB² measured outdoors.

4.4.2 The mitigation measures, including noise insulation, will reduce noise inside all dwellings, such that it does not reach a level where it would significantly affect residents³.

Residential receptors: direct effects – communities

4.4.3 The avoidance and mitigation measures in this area will avoid airborne construction noise adverse effects³ on the majority of receptors and communities. Residual temporary noise or vibration effects are identified later in this section.

4.4.4 It is anticipated that there may be some night-time working during road and rail possession periods. Night-time construction activities in this area would be restricted to where the route crosses existing railway lines, roads or where newly constructed roads tie into the existing road network for reasons of safety, engineering practicability or to reduce the impact on existing transport. These works are likely to be of short duration, and be limited in the types of activities being undertaken. As a consequence, it is expected that the noise effects from night time activities would be limited in duration and hence would not be considered significant.

4.4.5 With regard to noise outside dwellings, the assessment of temporary effects takes account of construction noise relative to existing sound levels.

4.4.6 In locations with lower existing sound levels³, construction noise effects³ are likely to be caused by changes to noise levels outside dwellings. These may be considered by the local community as an effect on the acoustic character of the area and hence be perceived as a change in the quality of life. These effects are considered to be significant when assessed on a community basis taking account of the local context³.

4.4.7 In this area, the mitigation measures reduce the effects of outdoor construction noise on the acoustic character around the local residential communities such that the effects are considered to be not significant.

Residential receptors: indirect effects

4.4.8 A minor impact, due to construction traffic, is predicted along the A453 Sutton Road and Watling Street. Taking account of incorporated mitigation, the limited number of properties adjacent to these roads and the predicted change in traffic noise levels; no indirect construction noise significant effects have been identified.

4.4.9 In certain instances a qualitative assessment has been undertaken. This was the case for assessment of noise due to construction traffic along the Bangley Lane. Construction traffic accesses Bangley Lane via the A453 Sutton Road. It is anticipated that only a small proportion of the total number of vehicles will travel along Bangley Lane with the majority of vehicles continuing on the A453 Sutton Road travelling to either the A453 Sutton Road overbridge compound or the Drayton Lane/Shirral Drive compound. The qualitative assessment has therefore concluded that the impact would be <1dB hence no significant temporary noise effect is considered likely.

² L_{p,Aeq,0800-1800} measured at the facade.

³ Further information is provided in Volume 5: Appendix SV-001-000.

Non-residential receptors: direct effects

4.4.10 Significant construction noise or vibration effects on non-residential receptors are unlikely to occur in this area.

Non-residential receptors: indirect effects

4.4.11 Significant noise effects on non-residential receptors arising from construction traffic are unlikely to occur in this area.

Cumulative effects from the Proposed Scheme and other committed development

4.4.12 This assessment has considered the potential cumulative construction noise effects of the proposed scheme and other committed developments⁴. In this area, there is no committed development that would be built at the same time as the Proposed Scheme and accordingly, construction noise or vibration from the Proposed Scheme is unlikely to result in any significant cumulative noise effects.

⁴ Refer to Volume 5: Appendix CT-004-000.